

## SEQUENCE LISTING

<110> Fogh, Jens  
 Irani, Meher  
 Andersson, Claes  
 Weigelt, Cecilia  
 Christer Möller  
 Pia Hydén

<120> PRODUCTION AND PURIFICATION OF ARYL  
 SULFATASE A

<130> 33686PC01

<150> PA200400144

<151> 2004-01-30

<150> US 60/540,061

<151> 2004-01-30

<160> 4

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 1524

<212> DNA

<213> Homo Sapiens

<400> 1

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<210> 2

<211> 507

<212> PRT

&lt;213&gt; Homo Sapiens

&lt;400&gt; 2

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 20          25          30
Tyr Gly Asp Leu Gly Cys Tyr Gly His Pro Ser Ser Thr Thr Pro Asn
 35          40          45
Leu Asp Gln Leu Ala Ala Gly Gly Leu Arg Phe Thr Asp Phe Tyr Val
 50          55          60
Pro Val Ser Leu Cys Thr Pro Ser Arg Ala Ala Leu Leu Thr Gly Arg
 65          70          75          80
Leu Pro Val Arg Met Gly Met Tyr Pro Gly Val Leu Val Pro Ser Ser
 85          90          95
Arg Gly Gly Leu Pro Leu Glu Glu Val Thr Val Ala Glu Val Leu Ala
100          105          110
Ala Arg Gly Tyr Leu Thr Gly Met Ala Gly Lys Trp His Leu Gly Val
115          120          125
Gly Pro Glu Gly Ala Phe Leu Pro Pro His Gln Gly Phe His Arg Phe
130          135          140
Leu Gly Ile Pro Tyr Ser His Asp Gln Gly Pro Cys Gln Asn Leu Thr
145          150          155          160
Cys Phe Pro Pro Ala Thr Pro Cys Asp Gly Gly Cys Asp Gln Gly Leu
165          170          175
Val Pro Ile Pro Leu Leu Ala Asn Leu Ser Val Glu Ala Gln Pro Pro
180          185          190
Trp Leu Pro Gly Leu Glu Ala Arg Tyr Met Ala Phe Ala His Asp Leu
195          200          205
Met Ala Asp Ala Gln Arg Gln Asp Arg Pro Phe Phe Leu Tyr Tyr Ala
210          215          220
Ser His His Thr His Tyr Pro Gln Phe Ser Gly Gln Ser Phe Ala Glu
225          230          235          240
Arg Ser Gly Arg Gly Pro Phe Gly Asp Ser Leu Met Glu Leu Asp Ala
245          250          255
Ala Val Gly Thr Leu Met Thr Ala Ile Gly Asp Leu Gly Leu Leu Glu
260          265          270
Glu Thr Leu Val Ile Phe Thr Ala Asp Asn Gly Pro Glu Thr Met Arg
275          280          285
Met Ser Arg Gly Gly Cys Ser Gly Leu Leu Arg Cys Gly Lys Gly Thr
290          295          300
Thr Tyr Glu Gly Gly Val Arg Glu Pro Ala Leu Ala Phe Trp Pro Gly
305          310          315          320
His Ile Ala Pro Gly Val Thr His Glu Leu Ala Ser Ser Leu Asp Leu
325          330          335
Leu Pro Thr Leu Ala Ala Leu Ala Gly Ala Pro Leu Pro Asn Val Thr
340          345          350
Leu Asp Gly Phe Asp Leu Ser Pro Leu Leu Leu Gly Thr Gly Lys Ser
355          360          365
Pro Arg Gln Ser Leu Phe Phe Tyr Pro Ser Tyr Pro Asp Glu Val Arg
370          375          380
Gly Val Phe Ala Val Arg Thr Gly Lys Tyr Lys Ala His Phe Phe Thr
385          390          395          400
Gln Gly Ser Ala His Ser Asp Thr Thr Ala Asp Pro Ala Cys His Ala
405          410          415
Ser Ser Ser Leu Thr Ala His Glu Pro Pro Leu Leu Tyr Asp Leu Ser
420          425          430
Lys Asp Pro Gly Glu Asn Tyr Asn Leu Leu Gly Gly Val Ala Gly Ala
435          440          445
Thr Pro Glu Val Leu Gln Ala Leu Lys Gln Leu Gln Leu Leu Lys Ala
450          455          460

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Gln Leu Asp Ala Ala Val Thr Phe Gly Pro Ser Gln Val Ala Arg Gly  
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<210> 3  
 <211> 489  
 <212> PRT  
 <213> Homo Sapiens

<220>  
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 Gln Leu Ala Ala Gly Gly Leu Arg Phe Thr Asp Phe Tyr Val Pro Val  
 35 40 45  
 Ser Leu Xaa Thr Pro Ser Arg Ala Ala Leu Leu Thr Gly Arg Leu Pro  
 50 55 60  
 Val Arg Met Gly Met Tyr Pro Gly Val Leu Val Pro Ser Ser Arg Gly  
 65 70 75 80  
 Gly Leu Pro Leu Glu Glu Val Thr Val Ala Glu Val Leu Ala Ala Arg  
 85 90 95  
 Gly Tyr Leu Thr Gly Met Ala Gly Lys Trp His Leu Gly Val Gly Pro  
 100 105 110  
 Glu Gly Ala Phe Leu Pro Pro His Gln Gly Phe His Arg Phe Leu Gly  
 115 120 125  
 Ile Pro Tyr Ser His Asp Gln Gly Pro Cys Gln Asn Leu Thr Cys Phe  
 130 135 140  
 Pro Pro Ala Thr Pro Cys Asp Gly Gly Cys Asp Gln Gly Leu Val Pro  
 145 150 155 160  
 Ile Pro Leu Leu Ala Asn Leu Ser Val Glu Ala Gln Pro Pro Trp Leu  
 165 170 175  
 Pro Gly Leu Glu Ala Arg Tyr Met Ala Phe Ala His Asp Leu Met Ala  
 180 185 190  
 Asp Ala Gln Arg Gln Asp Arg Pro Phe Phe Leu Tyr Tyr Ala Ser His  
 195 200 205  
 His Thr His Tyr Pro Gln Phe Ser Gly Gln Ser Phe Ala Glu Arg Ser  
 210 215 220  
 Gly Arg Gly Pro Phe Gly Asp Ser Leu Met Glu Leu Asp Ala Ala Val  
 225 230 235 240  
 Gly Thr Leu Met Thr Ala Ile Gly Asp Leu Gly Leu Leu Glu Glu Thr  
 245 250 255  
 Leu Val Ile Phe Thr Ala Asp Asn Gly Pro Glu Thr Met Arg Met Ser  
 260 265 270  
 Arg Gly Gly Cys Ser Gly Leu Leu Arg Cys Gly Lys Gly Thr Thr Tyr  
 275 280 285  
 Glu Gly Gly Val Arg Glu Pro Ala Leu Ala Phe Trp Pro Gly His Ile  
 290 295 300  
 Ala Pro Gly Val Thr His Glu Leu Ala Ser Ser Leu Asp Leu Leu Pro  
 305 310 315 320  
 Thr Leu Ala Ala Leu Ala Gly Ala Pro Leu Pro Asn Val Thr Leu Asp  
 325 330 335

Gly Phe Asp Leu Ser Pro Leu Leu Leu Gly Thr Gly Lys Ser Pro Arg  
 340 345 350  
 Gln Ser Leu Phe Phe Tyr Pro Ser Tyr Pro Asp Glu Val Arg Gly Val  
 355 360 365  
 Phe Ala Val Arg Thr Gly Lys Tyr Lys Ala His Phe Phe Thr Gln Gly  
 370 375 380  
 Ser Ala His Ser Asp Thr Thr Ala Asp Pro Ala Cys His Ala Ser Ser  
 385 390 395 400  
 Ser Leu Thr Ala His Glu Pro Pro Leu Leu Tyr Asp Leu Ser Lys Asp  
 405 410 415  
 Pro Gly Glu Asn Tyr Asn Leu Leu Gly Gly Val Ala Gly Ala Thr Pro  
 420 425 430  
 Glu Val Leu Gln Ala Leu Lys Gln Leu Gln Leu Leu Lys Ala Gln Leu  
 435 440 445  
 Asp Ala Ala Val Thr Phe Gly Pro Ser Gln Val Ala Arg Gly Glu Asp  
 450 455 460  
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 465 470 475 480  
 Cys Cys His Cys Pro Asp Pro His Ala  
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<210> 4  
 <211> 489  
 <212> PRT  
 <213> Homo Sapiens

<400> 4  
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 Gln Leu Ala Ala Gly Gly Leu Arg Phe Thr Asp Phe Tyr Val Pro Val  
 35 40 45  
 Ser Leu Cys Thr Pro Ser Arg Ala Ala Leu Leu Thr Gly Arg Leu Pro  
 50 55 60  
 Val Arg Met Gly Met Tyr Pro Gly Val Leu Val Pro Ser Ser Arg Gly  
 65 70 75 80  
 Gly Leu Pro Leu Glu Glu Val Thr Val Ala Glu Val Leu Ala Ala Arg  
 85 90 95  
 Gly Tyr Leu Thr Gly Met Ala Gly Lys Trp His Leu Gly Val Gly Pro  
 100 105 110  
 Glu Gly Ala Phe Leu Pro Pro His Gln Gly Phe His Arg Phe Leu Gly  
 115 120 125  
 Ile Pro Tyr Ser His Asp Gln Gly Pro Cys Gln Asn Leu Thr Cys Phe  
 130 135 140  
 Pro Pro Ala Thr Pro Cys Asp Gly Gly Cys Asp Gln Gly Leu Val Pro  
 145 150 155 160  
 Ile Pro Leu Leu Ala Asn Leu Ser Val Glu Ala Gln Pro Pro Trp Leu  
 165 170 175  
 Pro Gly Leu Glu Ala Arg Tyr Met Ala Phe Ala His Asp Leu Met Ala  
 180 185 190  
 Asp Ala Gln Arg Gln Asp Arg Pro Phe Phe Leu Tyr Tyr Ala Ser His  
 195 200 205  
 His Thr His Tyr Pro Gln Phe Ser Gly Gln Ser Phe Ala Glu Arg Ser  
 210 215 220  
 Gly Arg Gly Pro Phe Gly Asp Ser Leu Met Glu Leu Asp Ala Ala Val  
 225 230 235 240  
 Gly Thr Leu Met Thr Ala Ile Gly Asp Leu Gly Leu Leu Glu Glu Thr  
 245 250 255  
 Leu Val Ile Phe Thr Ala Asp Asn Gly Pro Glu Thr Met Arg Met Ser

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Arg	Gly	Gly	Cys	Ser	Gly	Leu	Leu	Arg	Cys	Gly	Lys	Gly	Thr	Thr	Tyr	
		275					280					285				
Glu	Gly	Gly	Val	Arg	Glu	Pro	Ala	Leu	Ala	Phe	Trp	Pro	Gly	His	Ile	
	290					295					300					
Ala	Pro	Gly	Val	Thr	His	Glu	Leu	Ala	Ser	Ser	Leu	Asp	Leu	Leu	Pro	
305					310					315					320	
Thr	Leu	Ala	Ala	Leu	Ala	Gly	Ala	Pro	Leu	Pro	Asn	Val	Thr	Leu	Asp	
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Gln	Ser	Leu	Phe	Phe	Tyr	Pro	Ser	Tyr	Pro	Asp	Glu	Val	Arg	Gly	Val	
	355						360					365				
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370					375						380					
Ser	Ala	His	Ser	Asp	Thr	Thr	Ala	Asp	Pro	Ala	Cys	His	Ala	Ser	Ser	
385					390					395					400	
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Glu	Val	Leu	Gln	Ala	Leu	Lys	Gln	Leu	Gln	Leu	Leu	Lys	Ala	Gln	Leu	
	435						440					445				
Asp	Ala	Ala	Val	Thr	Phe	Gly	Pro	Ser	Gln	Val	Ala	Arg	Gly	Glu	Asp	
450					455					460						
Pro	Ala	Leu	Gln	Ile	Cys	Cys	His	Pro	Gly	Cys	Thr	Pro	Arg	Pro	Ala	
465					470					475					480	
Cys	Cys	His	Cys	Pro	Asp	Pro	His	Ala								
				485												